

Appl. No. 10/623,427
Amdt. Dated April 24, 2006
Reply to Office Action of October 24, 2005

Docket No. CM03763J

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A system for managing speakerphone operation in a communications device, comprising:

a first voice activity detector, configured to communicate with an inbound path of the communications device, the first voice activity detector generating at least first voice data based upon a signal in the inbound path;

a second voice activity detector, configured to communicate with an outbound path of the communications device, the second voice activity detector generating at least second voice data based upon a signal in the outbound path; and

a processor, communicating with the first voice activity detector and the second voice activity detector, the processor controlling at least one of the inbound path and the outbound path based upon at least one of the first voice data and the second voice data[.];

wherein the first voice data comprises at least one of a first voice energy signal, a first voice envelope that is a moving average, a first voice sample, and a first voice present signal, and wherein the second voice data comprises at least one of a second voice energy signal, a second voice envelope that is a moving average, a second voice sample and a second voice present signal.

Claims 2 - 5. (cancelled)

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6. (original) A system according to claim 1, wherein the communications device comprises at least one of a cellular telephone, a voice-enabled network device, and a telephone device.

Claims 7 - 8. (cancelled)

9. (original) A system according to claim 1, wherein the controlling performed by the processor comprises awarding control of a communications channel to one of the inbound path and the outbound path based upon a comparison of the first voice data and the second voice data.

10. (original) A system according to claim 9, wherein the communications channel comprises a wireless communications channel.

11. (original) A system according to claim 1, wherein the signal in the inbound path comprises at least a voice signal of a local user.

12. (original) A system according to claim 1, wherein the signal in the outbound path comprises at least a voice signal of a remote user.

13. (original) A system according to claim 1, further comprising a comfort noise generator, the processor communicating with the comfort noise generator to generate comfort noise at selected times based on at least one of the first voice data and the second voice data.

14. (original) A system according to claim 1, further comprising an echo canceller, the echo canceller being coupled to the inbound path to cancel at least a portion of the signal in the outbound path.

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15. (original) A system according to claim 1, wherein the inbound channel further comprises a speech encoder module.

16. (original) A system according to claim 1, wherein the outbound channel further comprises a speech decoder module.

17. (original) A system according to claim 1, further comprising an interface to a modem transmitter module.

18. (original) A system according to claim 1, further comprising an interface to a modem receiver module.

19. (currently amended) A method for managing speakerphone operation in a communications device, comprising:

generating at least first voice data based upon a signal in an inbound path of the communications device;

generating at least second voice data based upon a signal in an outbound path of the communications device; and

controlling at least one of the inbound path and the outbound path based upon at least one of the first voice data and the second voice data[[]];

wherein the first voice data comprises at least one of a first voice energy signal, a first voice envelope that is a moving average, a first voice sample, and a first voice present signal, and wherein the second voice data comprises at least one of a second voice energy signal, a second voice envelope that is a moving average, a second voice sample, and a second voice present signal.

Claims 20 - 23. (cancelled)

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24. (original) A method according to claim 19, wherein the communications device comprises at least one of a cellular telephone, a voice-enabled network device, and a telephone device.

Claims 25 - 26. (cancelled)

27. (original) A method according to claim 19, wherein the step of controlling comprises awarding control of a communications channel to one of the inbound path and the outbound path based upon a comparison of the first voice data and the second voice data.

28. (original) A method according to claim 27, wherein the communications channel comprises a wireless communications channel.

29. (original) A method according to claim 19, wherein the signal in the inbound path comprises at least a voice signal of a local user.

30. (original) A method according to claim 19, wherein the signal in the outbound path comprises at least a voice signal of a remote user.

31. (original) A method according to claim 19, further comprising generating comfort noise at selected times based on at least one of the first voice data and the second voice data.

32. (original) A method according to claim 19, further comprising canceling at least a portion of the signal in the outbound path from the inbound path.

33. (original) A method according to claim 19, wherein the inbound channel further comprises a speech encoder module.

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34. (original) A method according to claim 19, wherein the outbound channel further comprises a speech decoder module.

35. (original) A method according to claim 19, wherein the communications device further comprises a modem transmitter module.

36. (original) A method according to claim 19, wherein the communications device further comprises a modem receiver module.

Claims 37 - 41. (cancelled)

42. (currently demanded) A system for managing speakerphone operation in a communications device, comprising:

a first voice activity detector, configured to communicate with an inbound path of the communications device, the first voice activity detector generating at least a first voice detection signal based upon at least a first voice threshold applied to a signal in the inbound path;

a second voice activity detector, configured to communicate with an outbound path of the communications device, the second voice activity detector generating at least a second voice detection signal based upon at least a second voice threshold applied to a signal in the outbound path; and

a processor, communicating with the first voice activity detector and the second voice activity detector, the processor controlling at least one of the inbound path and the outbound path based upon at least a comparison of the first voice detection signal and the second voice detection signal[.];

wherein the first voice detection signal comprises an assertable first voice present signal and the second voice detection signal comprises an assertable second voice present signal;

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wherein the assertable first voice present signal is generated by comparing at least one of a first voice signal energy and a first voice signal envelope that is a moving average to a first dynamic voice threshold; and

wherein the assertable second voice present signal is generated by comparing at least one of a second voice signal energy and a second voice signal envelope that is a moving average to a second dynamic voice threshold.

43. (cancelled)

44. (currently amended) A system according to claim ~~[[43]]~~ 42, wherein the comparison comprises testing for the assertion of the first voice present signal and the second voice present signal.

45. (original) A system according to claim 44, wherein the processor awards control of a communications channel to the inbound path when the first voice present signal is asserted and the second voice present signal is not asserted.

46. (original) A system according to claim 44, wherein the processor awards control of a communications channel to the outbound path when the first voice present signal is not asserted and the second voice present signal is asserted.

47. (original) A system according to claim 44, wherein the processor awards control of a communications channel to the inbound path when the first voice present signal is asserted and the second voice present signal is asserted.

48. (original) A system according to claim 44, wherein the processor awards control of a communications channel to the outbound path when the first voice present signal is asserted and the second voice present signal is asserted.

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49. (original) A system according to claim 42, wherein the processor adjusts at least the first voice threshold based upon the comparison of the first voice detection signal and the second voice detection signal.

50. (original) A system according to claim 49, wherein the processor adjusts the first voice threshold in dependence upon the second voice detection signal.

51. (original) A system according to claim 50, wherein the processor multiplies the second voice detection signal by a scale factor to adjust the first voice threshold.

52. (original) A system according to claim 42, wherein the processor initiates at least one of the first voice threshold and the second voice threshold based upon a predetermined computation.

Claims 53 – 56 (cancelled)

57. (original) A system according to claim 42, wherein the communications device comprises at least one of a cellular telephone, a voice-enabled network device, and a telephone device.

Claims 58 – 59. (cancelled)

60. (original) A system according to claim 42, wherein the signal in the inbound path comprises at least a voice signal of a local user.

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61. (original) A system according to claim 42, wherein the signal in the outbound path comprises at least a voice signal of a remote user.

62. (original) A system according to claim 42, further comprising a comfort noise generator, the processor communicating with the comfort noise generator to generate comfort noise at selected times based on at least one of the first voice detection signal and the second voice detection signal.

63. (original) A system according to claim 42, further comprising an echo canceller, the echo canceller being coupled to the inbound path to cancel at least a portion of the signal in the outbound path.

64. (original) A system according to claim 42, wherein the inbound channel further comprises a speech encoder module.

65. (original) A system according to claim 42, wherein the outbound channel further comprises a speech decoder module.

66. (original) A system according to claim 42, further comprising an interface to a modem transmitter module.

67. (original) A system according to claim 42, further comprising an interface to a modem receiver module.

Claims 68-182. (Cancelled)